Biodiversity Council Meets to Discuss Climate Change

by Mike Chapel, U.S. Forest Service

The California Biodiversity Council met on Oct 3-4, 2007 to discuss the implications of climate change to its member agencies. The first day was spent touring the Delta where there were presentations and discussions about the effects of climate change on biodiversity conservation, agriculture, water management, local land-use planning, and energy development and uses. The clear message from the field tour was that changing climate conditions will bring new challenges and opportunities for everyone.

The Council meeting on October 4 was divided into three discussions. First, the Council was provided with an overview of the climate change work that is under way by the State of California. Next, several speakers addressed the need for better understanding of emerging climate science by land managers. Finally, several member agencies presented some of their innovative climate change work to the Council.

The California Program for Climate Change

Andrew Altevogt (Cal EPA) provided some projections for climate change and highlighted the work by the State of California to reduce emissions of greenhouse gases. Dr. Altevogt stated that global warming impacts could results in 75% loss in snow pack, 1-2 ft sea level rise, 70 more extreme heat days per year, and 55% more large forest fires by the end of the Century. He noted that, in California, GHG emissions are primarily from transportation (41%), Ag and Forestry (8%) and industrial activity (30%). The California program for climate change has established a goal of reducing overall GHG emission to the 1990 level by 2020. The work is being guided by the Climate Action Team which is led by the Secretary of Cal EPA. The “CAT” has outlined over 40 strategies for reducing GHG emissions. A total reduction of 175 mmt CO2 is desired.

Maury Roos summarized some of the analysis by the Calif. Dept. Water Resources to support the state program from climate change. Mr. Roos

confirmed that DWR expects the annual precipitation to remain highly variable as the climate becomes warmer. Less snow is expected and snow will not accumulate at the lower elevations it does today. More runoff during winter and less during the spring is also expected. Sea level rises of 4-8 inches are anticipated by the end of the century. The Department is now assessing how they might manage the water-supply system for the state to address these changes.

Crawford Tuttle then explained some of the work that is under way by Cal Fire to support the California program for climate change. Mr. Tuttle stated that about 33 million acres (1/3 of state) is comprised of forests. He also noted that forests are extremely important for managing carbon emissions because they continuously remove CO2 from the atmosphere and bind it (sequester) in plant material. Cal Fire is pursuing five strategies for improving the climate benefits that are derived from forests: 1) reforest denuded areas; 2) conserve forests that might be lost to development or wildfire; 3) increase the stocking and growth of existing forests; 4) plant more trees in urban areas; and 5) utilize wood waste as biomass to capture energy while reducing carbon emission.

Coordination of Climate Change Science to Support land Management Agencies

Tony Brunello (Resources Agency) moderated a panel discussion on this topic.

First, John Donnelly (Wildlife Conservation Board) explained that his organization has spent over $1.3 billion on more than 800,000 acres for conservation statewide. Climate change was not a consideration in their purchases to date. However, climate-driven shifts in sea level, precipitation, and vegetation are now driving a need to evaluate the potential long-term climate effects on land purchases by the WCB. Mr. Donnelly noted that he presently lacks the capacity to follow emerging climate research. He expressed a need for assistance with this work.

Dave Graber told that Council that the National Park Service is also struggling to understand the potential effects of climate change on their

programs. National Parks are to be preserved for natural and untrammeled ecosystems. Today, the strategy of avoiding active management of most ecosystems may no longer be appropriate. The National Park Service is also following emerging climate research as a source of guidance for their future management options. Mr. Graber stated that better coordination among land managers and climate scientists will be needed to conserve biodiversity.

Darla Guenzler then explained that understanding climate change has become a priority for the California Council of Land Trusts. Her organization represents land trusts who are acquiring large acreages of land for conservation. They need help understanding the emerging science for the same reasons as the Wildlife Conservation Board.

Donna Reardon completed the discussion by explaining how the California Council on Science and Technology has assisted with reviews of science for government agencies on other issues. Following her presentation, Rick Rayburn (California Department of Parks and Recreation) and Tony Brunello proposed that the Biodiversity Council contract with the CCST for periodic reviews of climate science. A steering committee of land managers and researchers would be formed to guide the work. The Council concurred with the recommendation to form a partnership with the CCST. Several agencies then volunteered to fund the work and participate on the steering committee. The project will be led by the California Resources Agency and participating agencies will include the California Department of Parks and Recreation, Department of Fish and Game, U.S. Forest Service, National Park Service, and Bureau of Land Management.

<u>An Overview of Climate Change Programs and Opportunities in California</u>
Andrew Altevogt returned to offer some suggestions about ways that CBC members might participate with the climate change program in California. He stated that the Climate Action Team has formed several sector working groups and CBC member agencies may wish to engage with these groups. Each group is working on mitigation strategies that are intended to reduce GHG emissions. Many groups are also working on adaptation strategies that will help communities and the environment anticipate and adjust to changing climate conditions. Important work groups include those working on

agriculture, forestry, land use, water and energy.

Next, panel of CBC member agencies described some of the important work they are leading to address climate change.

Jon Jarvis stated that the National Park Service decided to emphasize climate change several years ago. They first held a workshop to bring all 54 fields units together. Field managers heard the most current climate science. They were then tasked to find ways of improving their operations to address climate change challenges. The field units share their successes and the agency now has a robust climate change program that includes public education, emission management, new research, certification of buildings, and solar energy investments.

Ruth Coleman described the "Cool Parks" program at the California Department of Parks and Recreation. The program has three components. The first focuses on reducing the agencies GHG emissions through improvements in vehicles, buildings, and equipment. The second component involves staffing and supporting the projects like the CBC partnership with the California Council on Science and Technology. The third component is to improve public education about climate change through interpretive services at state parks.

Sam Schuchat discussed how the California Coastal Conservancy integrated climate change into their strategic plan. He explained how sea level change could have a dramatic impact on their work to conserve coastal resources. Long-term easements are a particular challenge for the Coastal Conservancy.

Steve Saunders (Institute for Local Government) explained that the California State Association of Counties and the League of Cities are working together on a three-part program for climate change. The program includes: 1) information and tools for local governments that wish to work on climate change; 2) networking for managers with similar programs; and 3) development of a set of best practices for addressing climate issues.

Mark Nechodom noted that the USDA Forest Service owns about 20% of the land and about half the forest land in California. The leadership of the agency is now actively considering the roles that national forests might play with carbon sequestrate. Reducing carbon emissions from wildfire remains priority for the agency. Adequate data to track the carbon flows through forests, biomass and wildfire remains a major challenge. The Forest Service was the first federal agency in California to join the Climate Action Registry.